

## ABSTRACT

The invention described herein comprises a method of treating a subject having a disorder characterized by the presence of one or more tumors comprising inserting a miniaturized concentrated neutron emitting source into said tumor(s) for a time sufficient to 5 irradiate the cells of the tumor(s). The invention method can be employed in the treatment of both malignant and non-malignant tumors and is especially useful in the treatment of malignant tumors found in the brain, prostate, and other internal organs. A preferred neutron source is californium-252. The majority of the tumor can be surgically removed prior to insertion of the neutron emitting source. In a further embodiment of the invention, a 10 neutron capture compound can be localized to the cells of the tumor prior to insertion of the miniaturized neutron emitting source in order to augment the effects of neutron therapy.